

Attorney Docket No. LEAP:133US
U.S. Patent Application No. 10/810,979
Reply to Office Action of March 1, 2006
Date: June 1, 2006

Amendments to the Drawings

The attached sheets of drawings include changes to Figures 1, 11 and 12. These sheets replace the original sheets. In Figure 1, reference number 26 has been removed. In Figures 11 and 12, reference numbers 66 have been changed to reference numbers 68.

Attachment: Replacement Sheets for Figures 1, 11 and 12

Remarks/Arguments

Amendments to the Specification

Paragraph [0014] has been amended to correct a spelling error, changing slid to slide and Applicants graciously recognize the Examiner's assistance in pointing out the inaccuracy.

Paragraph [0015] has been amended to add the U.S. Application serial number of the copending patent application that is referred to in the paragraph.

Paragraph [0020] has been amended to add the U.S. Application serial numbers of the copending patent applications that are referred to in the paragraph.

Paragraph [0026] has been amended to describe the interaction of drive 27 with the drive is installed in hole 26. This description is fully supported by the preceding lines in paragraph [0026] and Figure 5.

Paragraph [0032] has been amended to correct an error in numbering noted for Figure 9 and Applicants graciously recognize the Examiner's assistance in pointing out the inconsistency.

Paragraph [0034] has been amended to correct an error in numbering noted stage edges 68 and Applicants graciously recognize the Examiner's assistance in pointing out the inconsistency.

No new matter has been added by the amendments to the specification that are submitted in this response.

The Rejection of Claims 1, 3, 4, 8, 18, 20 and 21 Under 35 USC §102(b)

In the Office Action of August 2, 2005 Examiner rejected Claims 1, 3, 4, 8, 18, 20 and 21 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3572888 (*Kawashima*). Applicants respectfully traverse this rejection and requests reconsideration.

Applicants courteously point out that Claim 1 has been amended to recite that the bearings and drive means are disposed under, and shielded by, the bottom side of the stage, and that the bearing shielding stage is displaceable along a y-axis. Shielding of the bearings by the bottom side of the stage is fully supported by the existing written description and drawings in

Figures 4, 5, 6, 7, 8 and 10, and in paragraphs [0028] and [0031]. Shielding the drive means by the bottom side of the stage is also fully supported by the existing written description and drawings as represented in Figures 4, 5, 6, 7, 8 and 10, and in paragraphs [0013], [0027] and [0031]. These features are not disclosed by *Kawashima*.

Kawashima fails to disclose bearings disposed under a stage and shielded by the bottom side of the stage

Each and every element of the invention as claimed must be found in a single prior art reference in order for a claim to be anticipated. Applicants respectfully submit that the '888 patent fails to teach every element of the claimed invention as recited in Claim 1. Particularly, *Kawashima* fails to disclose bearings for the carriage disposed under the stage, which are shielded by the bottom side of the stage.

In Figure 5 of *Kawashima*, clamping holder 2 has been removed from upper stage 1 to reveal slot 38 which is formed in upper stage 1. Slide member 3 rides within slot 38 assisted by bearings 4 located between the slide member 3 and a pair of guide rods 39 and 40 secured to upper stage 1 along the respective edges of slot 38. (See Figure 3 and 5; col. 5, lines 12-18). As can be seen in Figure 5, **upper stage 1 does not shield bearings 4 and they are not disposed under the bottom side of upper stage 1**. Bearings 4 are placed in slot 38 between slide member 3 and the walls of slot 38, which are lined by guide rods 39 and 40. In this arrangement, bearings 4 are not under and at the bottom side of upper stage 1, are they are certainly not shielded by upper stage 1. Even if dust could not accumulate on the bearings 4 by entering slot 38, dust and debris can at least accumulate through the gap between Vernier scales 1' and 2' shown in Figure 1 of *Kawashima*. Dust can enter through the slight gap between 1' and 2' and fall into the bearings 4 that are positioned directly below the gap between 1' and 2'. The lack of shielding for the bearings of *Kawashima* is exemplified by the likelihood that dust and debris will enter this gap between 1' and 2'.

The specification of the instant application stresses the importance of shielding the bearings and the drive system from dust and debris since regular cleaning of these parts can be time consuming and failure to do regular cleanings will cause the performance of the microscope

to greatly diminish. The design offered by *Kawashima* lacks the structural elements recited above and it does not position the bearings under upper stage 1 to shield debris and dust from entering slot 38 and fouling bearings 4.

Assuming *arguendo* that clamping holder 2 does adequately shield slot 38 and bearings 4, which it does not, **clamping holder 2 is not a stage.** Claim 1 recites that the shielding of the bearings is performed by the upper stage, not a clamping holder or slide mounting device. Since the structural limitations recited in Claim 1 calling for the positioning of bearings under, and at the bottom side of the stage, and shielding the bearings by the stage are not disclosed by *Kawashima* the invention recited in Claim 1 is novel.

Kawashima fails to disclose a drive means placed under a stage and shielded by the bottom side of the stage

Moreover, *Kawashima* discloses a drive mechanism that uses a gear system that is entirely exposed to dust and debris as shown in Fig. 2 of the '888 patent. Claim 1 recites the limitation that the drive means is disposed under the stage and **shielded by the bottom side of the stage.** *Kawashima fails to teach or disclose that the drive mechanism is shielded by the bottom side of the stage.* In Figure 2, gears 22 and 24, both connected to shaft 20 are partially exposed to the surrounding lab environment where the microscope will be used, which will lead to the accumulation of dust and debris in the drive means of the stage. Gears 22 and 24, i.e., the drive means, are not shielded by the bottom side of the stage. Dust and debris accumulating on gears 22 and 24 can transfer that dust to the inner most gears 25, 27, 29, 30 and 31. Over time this accumulation of dust and debris will cause the entire gear system disclosed in the '888 patent to become dirty, leading to reduced performance of the drive means.

It is apparent that the drive means taught and disclosed by the '888 patent never contemplated the importance of shielding the drive means and this is emphasized by the fact that the drive means is not placed under the stage and that the drive means is not shielded by the bottom side of the stage.

Kawashima fails to teach a stage that shields the bearings and is capable of y-movement

Claim 1 recites a stage that shields the bearings and is displaceable along the y-axis. In col. 3, lines 47-51, of *Kawashima*, lower stage 5 is described as a stage element that is rotatably mounted on support member 9 and later in col. 3, lines 60-64 describe lower stage 5 as coinciding with the optical axis X-X while the lower stage 5 is permitted to rotate. Rotating member 5 is only described as a rotating stage and never is described or depicted as a stage that is capable of lateral movement, let alone y-movement. Bearings 16 are not shielded by an upper stage that is capable of y-movement. Rotating member 5 is not capable of y-movement even if it is capable of shielding the bearings. Thus, the element of shielding the bearings by a stage that is displaceable along a y-axis is not taught by *Kawashima*.

Applicants submit that for all of the above reasons independent Claim 1 is novel, and thus respectfully request reconsideration and withdrawal of the rejection.

Claims 3, 4, 8, 18, 20 and 21 depend from Claim 1 either directly or indirectly and thus incorporate all the limitations of Claim 1 and are likewise novel with respect to the '888 patent. Applicants respectfully request reconsideration and withdrawal of the rejections to Claims 1, 3, 4, 8, 18, 20 and 21 and passage to allowance of those claims.

The Rejection of Claims 9, 10, 13, 15 and 24 Under 35 USC §102(b)

In the Office Action of August 2, 2005 Examiner rejected Claims 9, 10, 13, 15 and 24 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3572888 (*Kawashima*). Applicants respectfully traverse this rejection and requests reconsideration.

Applicants courteously point out that Claim 1 has been amended to recite that the bearings and drive means are disposed under, and shielded by, the bottom side of the stage, and that the bearing shielding stage is displaceable along a y-axis. Shielding of the bearings by the bottom side of the stage is fully supported by the existing written description and drawings in Figures 4, 5, 6, 7, 8 and 10, and in paragraphs [0028] and [0031]. Shielding the drive means by the bottom side of the stage is also fully supported by the existing written description and

drawings as represented in Figures 4, 5, 6, 7, 8 and 10, and in paragraphs [0013], [0027] and [0031]. These features are not disclosed by *Kawashima*.

It has been shown *supra* that because *Kawashima* fails to disclose a microscope stage assembly that has bearings and drive means disposed under, and shielded by, the bottom side of the stage, and that the bearing shielding stage is displaceable along a y-axis, Claim 1 is novel. Claims 9, 10, 13, 15 and 24 are dependent on Claim 1, and thus by their dependency, adopt all the claim limitations recited in Claim 1. Therefore, Claims 9, 10, 13, 15 and 24 are also novel and Applicants respectfully request withdrawal of the rejection of those claims.

The Rejection of Claims 11, 12, 14, 16 and 25 Under 35 USC §102(b)

In the Office Action of August 2, 2005 Examiner rejected Claims 11, 12, 14, 16 and 25 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3572888 (*Kawashima*). Applicants respectfully traverse this rejection and requests reconsideration.

Applicants courteously point out that Claim 1 has been amended to recite that the bearings and drive means are disposed under, and shielded by, the bottom side of the stage, and that the bearing shielding stage is displaceable along a y-axis. Shielding of the bearings by the bottom side of the stage is fully supported by the existing written description and drawings in Figures 4, 5, 6, 7, 8 and 10, and in paragraphs [0028] and [0031]. Shielding the drive means by the bottom side of the stage is also fully supported by the existing written description and drawings as represented in Figures 4, 5, 6, 7, 8 and 10, and in paragraphs [0013], [0027] and [0031]. These features are not disclosed by *Kawashima*.

It has been shown *supra* that because *Kawashima* fails to disclose a microscope stage assembly that has bearings and drive means disposed under, and shielded by, the bottom side of the stage, and that the bearing shielding stage is displaceable along a y-axis, Claim 1 is novel. Claims 11, 12, 14, 16 and 25 are dependent on Claim 1, and thus by their dependency, adopt all the claim limitations recited in Claim 1. Therefore, Claims 11, 12, 14, 16 and 25 are also novel and Applicants respectfully request withdrawal of the rejection of those claims.

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Conclusion

Applicants respectfully submit that the present application is now in condition for allowance, which action is courteously requested. The Examiner is invited and encouraged to contact the undersigned attorney of record if such contact will facilitate an efficient examination and allowance of the application.

Respectfully submitted,



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CRL/TGM
Dated: June 1, 2006

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Appendix